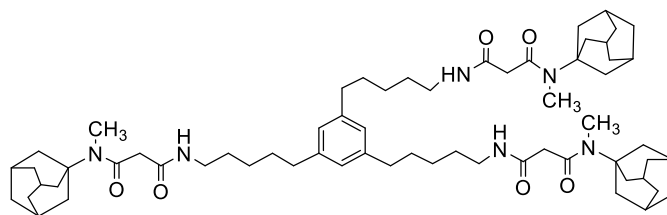


Product Information



63112 Magnesium ionophore VI

(ETH 5506; 1,3,5-Tris[10-(1-adamantyl)-7,9-dioxo-6,10-diazaundecyl]benzene)

Selectophore®, function tested

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type¹⁻⁴

Assay of Mg²⁺ activity in extracellular fluid with solvent polymeric membrane electrodes based on Magnesium Ionophore VI.

Recommended Membrane Composition

- 1.00 wt% Magnesium Ionophore VI ([63112](#))
- 0.74 wt% Potassium tetrakis(4-chlorophenyl)borate ([60591](#))
- 65.26 wt% [12-(4-Ethylphenyl)dodecyl] 2-nitrophenyl ether ([46092](#))
- 30.00 wt% Poly(vinyl chloride) high molecular weight ([81392](#))

Recommended Cell Assembly

Reference || sample solution || sample solution || liquid membrane | 0.01 M MgCl₂ | AgCl, Ag

Electrode Characteristics and Function

Selectivity coefficients $\log K_{Mg,M}^{Pot}$ determined by the mixed solution method.

$\log K_{Mg,Na}^{Pot}$	-3.9	$\log K_{Mg,Ca}^{Pot}$	-1.9
$\log K_{Mg,K}^{Pot}$	-3.3		

Slope of linear regression:	31.4±0.7 mV/dec
Lifetime: $\log p_{TLC}$ ionophore:	8.48±0.98 ²
$\log p_{TLC}$ plasticizer:	12.8 ²

¹ Development of magnesium-selective ionophores. J. O'Donnell, H. Li, B. Rusterholz, U. Pedrazza, W. Simon, Anal. Chim. Acta 281, 129 (1993).

² A Comparison of Neutral Mg²⁺-Selective Ionophores in Solvents Polymeric Membranes: Complex Stoichiometry and Lipophilicity. W. Zhang, L. Jenny, U. E. Spichiger, Anal. Sci. 16, 11 (2000).

³ Potentiometric microelectrodes as sensor and detectors. Magnesium-selective electrodes as sensors, and hofmeister electrodes as detectors for histamine in capillary electrophoresis. U. E. Spichiger, A. Fakler, Electrochim. Acta 42, 3137 (1997).

⁴ Determination of [Mg(2+)]_i - an update on the use of Mg(2+)-selective electrodes. D. Gunzel, W. R. Schlue, Biometals, 15(3), 237 (2002).

